

**TO:** S779 File**DATE:** September 5, 1985**FROM:** E. Sonnenberg**COPIES:** G. Gartseff**SUBJECT:** Douglassville Disposal Site  
FS Alternative No. 4, Modification No. 2 to Include:  
9 Monitoring Wells, Capping Sludge Disposal and  
Former Sludge Lagoon Areas, Levee, and Drainage  
Ditch Excavation

As requested by the RSPO, the subject modifications to Alternative No. 4 have been considered. The resulting changes to the cost estimate for Alternative No. 4 are summarized below.

<u>Item</u>	<u>Base Cost</u>	<u>Annual Cost</u>
Monitoring Well Installation	\$ 23,000	\$ 149,000
Facility Sludge Disposal Area Cap	307,000	14,000
Former Sludge Lagoon Area Cap	1,290,000	19,000
Levee (Lagoon Area)	145,000	14,000
Drainage Ditch Excavation	476,000	—
<b>SUBTOTAL</b>	<b>\$ 2,241,000</b>	<b>\$ 196,000</b>
Adjustments (incl. overhead, profit, contingencies)	3,044,000	
<b>TOTAL BASE CAPITAL COST</b>	<b>\$ 5,285,000</b>	
Present Worth of Annual O&M Costs (10% discount, 30 yrs)	\$ 1,848,000	
<b>TOTAL PRESENT WORTH</b>	<b>\$ 7,133,000</b>	

**Note:** The above costs are base costs: actual costs may vary +50%, -30%.

Backup data for the above cost estimates are attached.

7450 10E2

FS Alternative No. 4, Modification No. 2  
ESTIMATED COST TRACK

DOUGLASSVILLE  
RCRA Caps at Dump and Lagoon  
Areas with Groundwater Treatment  
(DSRCGT)

ITEM	QUANTITY	UNITS	Sub.	Mat'l.	Labor	Equip.	MATERIALS	LABOR	EQUIPMENT	SUBCTR.	TOTAL	EXTENDED SUBTOTALS
Monitoring Well Installation	9	EA	\$2568.00							23112	23112	23112
Drainage Ditch												
Excavate Sediment	5300	CY		\$0.93	\$1.74		0	4929	9222	0	14151	
Transportation Sediment	6400	CY		\$0.64	\$1.32		0	4096	9728	0	13824	
Clear and Grub	2.7	ACS		\$434.00	\$366.00		0	1172	2608	0	3780	
Grade Dump Area	4356	CY		\$0.40	\$1.61		0	1242	7013	0	8756	
Compact Sediment	8400	CY		\$0.58	\$0.71		0	3712	4544	0	8256	
SUBTOTAL DRAINAGE DITCH												48767
Facility Area:												
Refilling Clay	10400	CY	\$3.00	\$1.71	\$3.83		31200	17784	39832	0	88316	
Compact Clay	10400	CY		\$0.58	\$0.71		0	6032	7384	0	13416	
Liner, 30 mil PE	13000	CY	\$4.26				0	0	0	55300	55300	
Borrow Gravel	5200	CY		\$1.58	\$3.71		16360	8216	19292	0	43888	
Compact Gravel	5200	CY		\$0.58	\$0.71		0	2256	3692	0	4576	
PVC Drainage Tile	1800	FT		\$1.45	\$1.41		2370	2256	0	0	19080	
Filter Fabric	13000	SY		\$1.01	\$0.10		13130	1300	650	0	44070	
Fill Dirt	7800	CY		\$1.58	\$1.20		12324	9360	22386	0	10062	
Compact Fill	7800	CY		\$0.58	\$0.71		0	4524	5538	0	21345	
Refill Topsoil	2167	CY	\$5.78	\$1.20	\$2.87		12325	2800	6219	0	4050	
Vegetation	2.7	ACS	\$1064.00	\$243.00	\$193.00		2873	656	521	0		
SUBTOTAL FACILITY AREA CAP												307392
Lagoon Area:												
Clear and Grub	10.6	ACS		\$434.00	\$366.00		0	4600	10240	0	14840	
Grade Lagoon Area	17100	CY		\$0.40	\$1.61		0	6840	27531	0	34371	
Refilling Clay	41196	CY	\$3.00	\$1.71	\$3.83		123588	70445	157781	0	351814	
Compact Clay	41196	CY		\$0.58	\$0.71		0	23894	29249	0	53143	
Liner, 30 mil PE	56643	SY	\$4.26				0	0	0	241299	241299	
Borrow Gravel	21000	CY		\$1.58	\$3.71		66150	33180	77910	0	172240	
Compact Gravel	21000	CY		\$0.58	\$0.71		0	12180	14910	0	27090	
PVC Drainage Tile	2950	FT		\$1.45	\$1.41		4278	4160	0	0	8437	
Filter Fabric	56644	SY		\$1.01	\$0.10		57210	5664	2832	0	65707	
Fill Dirt	31000	CY		\$1.58	\$1.20		48960	37200	88970	0	175150	
Compact Fill	31000	CY		\$0.58	\$0.71		0	17960	22010	0	39990	
Refill Topsoil	8600	CY	\$5.78	\$1.20	\$2.87		49708	10320	24682	0	84710	
Vegetation	10.6	ACS	\$1064.00	\$243.00	\$193.00		11278	2576	2046	0	15900	
SUBTOTAL LAGOON AREA CAP												1289693
Levee Around Lagoon Area:												
Clay Borrow	12000	CY	\$3.00	\$1.71	\$3.83		36000	20520	49560	0	102480	
Compact Clay	12000	CY		\$0.58	\$0.71		0	6960	8520	0	15480	
Revegetation	1.7	ACS	\$1064.00	\$243.00	\$193.00		1809	413	378	0	2350	
Backfill Valley	2	EA	\$12371.00				24742	0	0	0	24742	
SUBTOTAL LEVEE												145252
Slurry Wall:												
Geotechnical Testing	1	LS	\$50000.00				514415	618413	319791	100000	800000	
Equipment Mobilization	1	LS	\$100000.00				312676			100000	100000	
Installation	1500	CY	\$90.00							405000	405000	
SUBTOTAL SLURRY WALL												555000
Groundwater Pumping:												
Well Installation	680	FT	\$25.00							17000	17000	
1 HP Submersible Pump	17	EA	\$1500.00							25500	25500	
Pipe	2140	FT	\$45.00							96300	96300	
PVC Connecting Hose	629	FT	\$1.84							1157	1157	
PVC Casing	340	FT	\$9.00							3060	3060	
SUBTOTAL GROUNDWATER PUMPING												143012

SUBTOTAL  
ITEMS 1-4 = \$1765

+ 5

# FS ALTERNATIVE No. 4, Modification No. 2 ESTIMATED COST Break-up

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DOUGLASSVILLE  
DOUGLASSVILLE  
ALT. 4, BUD

ALT 4 as requested  
by EPA

BASE

ITEM	QUANTITY	UNITS	Material	Labor	Equipment	Subctr.	TOTAL
UNIT 1							
ALT 4 SUBTOTAL			514,995	512,676	618,433	319,791	1,765,445 (100%)
Excavation	27000	CY	64.00	64.93	61.74	64.00	251,149
Transport Soil	32400	CY	64.00	64.64	61.52	64.00	44,980
Compact Base	32400	CY	64.00	64.58	64.71	64.00	49,740
Roll Backfill	32400	CY	61.50	61.29	62.87	64.00	41,793
Compact Backfill	32400	CY	64.00	64.58	64.71	64.00	41,793
Roll Topsoil	900	CY	65.78	61.28	62.87	64.00	2,583
Revegetation	1.12	Ac	81,044.00	8243.00	8181.00	64.00	1,000
Exc. Subsurface Drain	2000	CY	64.00	64.93	61.74	64.00	3,440
UNIT 2							
DOUGLASSVILLE							
Filler Fabric	3400	SY	61.81	64.16	64.03	64.00	3,434
Barren Crushed Stone	4850	Y	61.73	64.59	61.42	64.00	5,751
Subtotal 1							
Subcontractor @ 14% of Subctr. Cost						31,979	31,979
Barren @ 12% of Labor Cost						52,321	52,321
Labor @ 12% of Labor Cost						64,139	64,139
Material @ 12% of Material Cost						34,750	34,750
Total Direct Costs (TDC)							
Indirect Cost @ 7.5% of Labor TDC						421,291	421,291
Profit @ 14% of TDC						242,782	242,782
Subtotal 2							
Writing License CDA/6-6-00							
Health & Safety Monitoring							
Total Field Cost (TFC)							
Contingency @ 20% of TFC							
Engineering @ 14% of TFC							
TOTAL CAPITAL COST							
							3,285,075 Base

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